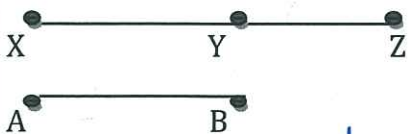
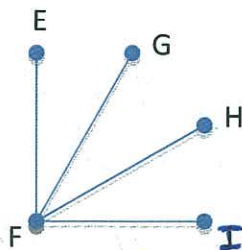


1) Given: $XY = AB$
Prove: $AB + YZ = XZ$



S	R
① $XY = AB$	① Given
② $XY + YZ = XZ$	② segment addition postulate
③ $AB + YZ = XZ$	③ substitution

2) Given: $\angle EFG \cong \angle HFI$
Prove: $\angle EFH \cong \angle GFH + \angle HFI$



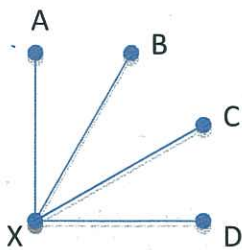
S	R
① $\angle EFG \cong \angle HFI$	① Given
② $\angle GFH \cong \angle GFH$	② Reflexive
③ $\angle EFG + \angle GFH = \angle GFH + \angle HFI$	③ addition prop
④ $\angle EFG + \angle GFH = \angle EFH$	④ angle addition post
⑤ $\angle GFH + \angle HFI = \angle GFI$	⑤ angle addition post

3) Given: $AB \cong CD$
Prove: $AC \cong BD$



S	R
① $AB = CD$	① Given
② $BC = BC$	② Reflexive
③ $AB + BC = CD + BC$	③ Addition prop
④ $AB + BC = AC$	④ segment addition post
⑤ $BC + CD = BD$	⑤
⑥ $AC = BD$	⑥ substitution

4) Given: $\angle AXB \cong \angle CXD$
Prove: $\angle AXC \cong \angle BXD$



S	R
① $\angle AXB = \angle CXD$	① Given
② $\angle BXC = \angle BXC$	② Reflexive
③ $\angle AXB + \angle BXC = \angle CXD + \angle BXC$	③ addition prop
④ $\angle AXB + \angle BXC = \angle AXC$	④ angle + post
⑤ $\angle BXC + \angle CXD = \angle BXD$	⑤
⑥ $\angle AXC = \angle BXD$	⑥ substitution

5) Given: $AC = BD$

Prove: $AB = CD$



S

R

① $AC = BD$

② $AB + BC = AC$

③ $BC + CD = BD$

④ $AB + BC = BC + CD$

⑤ $AB = CD$

① given

② segment

③ (+) Post

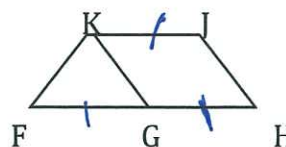
④ substitution

⑤ subtraction

6) Given: $FG \cong KJ$

$GH \cong KJ$

Prove: $FG \cong GH$



S

R

① $FG \cong KJ$

② $GH \cong KJ$

③ $KJ \cong GH$

④ $FG \cong GH$

① given

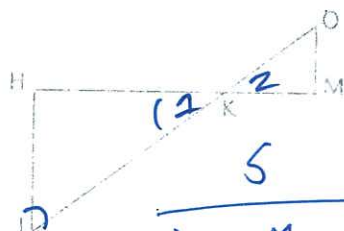
② given

③ symmetric

④ transitive

7) Given: $\angle J \cong \angle I$

Prove: $\angle J \cong \angle 2$



S

R

① $\angle J \cong \angle I$

② $\angle I \cong \angle 2$

③ $\angle J \cong \angle 2$

① given

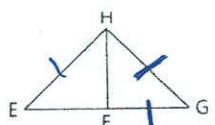
② vertical
c's

③ transitive

8) Given: $HE \cong HG$

$FG \cong HG$

Prove: $HE \cong FG$



S

R

① $HE \cong HG$

② $FG \cong HG$

③ $HG \cong FG$

④ $HE \cong FG$

① given

② given

③ symmetric

④ transitive

Look over CW and HW #32-34H. Use your Notes to Review:

- 1) What are the algebraic properties?
- 2) What does reflexive, symmetric and transitive mean? Give examples of each.
- 3) Go over/rewrite proofs that you struggled with.

PUSH IT TO THE LIMIT.

CN # 32-34 REVIEW

A proof is an argument that begins with facts, proceeds from there through a series of logical deductions, and ends with what you are trying to prove.

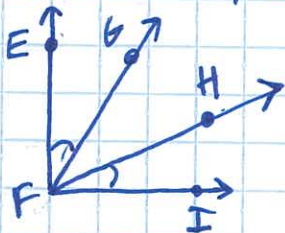
Postulate - statements that are assumed to be true without proof

Theorem - can be proved from definitions, postulates or previously proved theorems

Example

Given: $\angle EFG \cong \angle HFI$

Prove: $\angle EFH \cong \angle GFI$



S	R
① $\angle EFG \cong \angle HFI$	① Given
② $\angle GFH \cong \angle GFH$	② Reflexive
③ $\angle EFG + \angle GFH \cong \angle HFI + \angle GFH$	③ Addition Prop of \cong
④ $\angle EFG + \angle GFH = \angle EFH$	④ angle addition prop
⑤ $\angle GFH + \angle HFI = \angle GFI$	⑤ angle addition prop
⑥ KNOW $\angle EFH \cong \angle GFI$	⑥ substitution

CM # 27 - 28 - 29

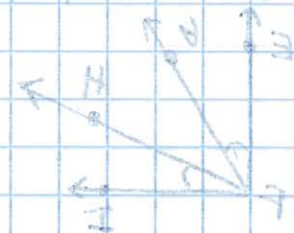
A vector is an arrow that points from one point to another. It has a direction and a magnitude. The direction is indicated by the arrowhead and the magnitude is indicated by the length of the arrow.

Position - displacement - distance

Displacement is a vector quantity that points from the initial position to the final position. Distance is a scalar quantity that is the total length of the path traveled.

Example 1: CM # 34

Given: $\vec{r}_{EN} = 7\text{m}$
 Find: $\vec{r}_{EL} = ?$



- | 1 | 2 |
|----------------------------|--|
| ① Given | ① $\vec{r}_{EN} = 7\text{m}$ |
| ② Unknown | ② $\vec{r}_{EL} = ?$ |
| ③ Addition and subtraction | ③ $\vec{r}_{EL} + \vec{r}_{LN} = \vec{r}_{EN}$ |
| ④ Add negative and | ④ $\vec{r}_{EL} + 5\text{m} = 7\text{m}$ |
| ⑤ Add negative and | ⑤ $\vec{r}_{EL} = 7\text{m} - 5\text{m}$ |
| ⑥ Simplification | ⑥ $\vec{r}_{EL} = 2\text{m}$ |